

REMARKS

Claim 21 has been amended, and Claims 27-30 have been added. Claims 1-30 are present in the application. Reconsideration of the application, as amended, is respectfully requested.

Patentable Subject Matter

Noted with appreciation is the indication in the Office Action that Claims 17-20 and 25-26 have been allowed.

Also noted with appreciation is the indication that Claims 2-4, 8-16 and 22 recite allowable subject matter, and would be allowed if rewritten in independent form. Claims 2-4, Claims 8-16 and Claim 22 respectively depend from independent Claims 1, 5 and 21, and Claims 1, 5 and 21 are believed to be allowable for reasons discussed later. Accordingly, it is believed to be unnecessary to place allowable Claims 2-4, 8-16 and 22 in independent form at this time.

Objection to Claim 21

The Office Action objected to independent Claim 21 on the ground that it included a spelling error, and required correction. The foregoing change to Claim 21 effects correction of the spelling error.

Independent Claim 1

Independent Claim 1 stands rejected under 35 U.S.C. §103 as obvious in view of Dahlberg U.S. Patent No. 6,414,645.

However, this ground of rejection is respectfully traversed, for the following reasons.

Claim 1 recites electrically conductive material defining a recess having a balun portion and a slot portion that communicate at "one end" of the slot portion, a conductive element which extends generally transversely to the slot portion at the "one end" thereof, and dielectric material "having an opening therethrough in the region of a further end of said slot portion remote from said one end thereof". With reference to Figure 5 of Dahlberg, the Examiner states that Dahlberg discloses (1) a conductive material (such as 44) defining a slot portion and balun portion that communicate at one end of the slot portion, (2) a conductive element 54 with an end portion extending transversely through the slot portion at the one end thereof, and (3) a dielectric material 40 having an opening 46 therethrough.

However, and contrary to the assertions in the Office Action, the opening 46 in the dielectric material 40 of Dahlberg is provided at the "one end" of the slot portion, rather than at "a further end of said slot portion remote from said one end thereof" (as recited in Applicants' Claim 1). In fact, as evident from Figures 5 and 6 of Dahlberg, the end of conductive element 54 actually extends physically through the opening 46, which is only possible because the opening 46 is located at the "one end" of the slot portion (where the conductive element 54 is located), rather than at a location remote from this one end.

The Office Action does not assert that it would be obvious to modify Dahlberg to reposition the opening 46, nor does the Office Action explain why a person of ordinary skill

in the art would be motivated by the teachings of Dahlberg to make such a modification. In fact, since the conductive element 54 extends through the opening 46, it would appear that repositioning the opening 46 of Dahlberg would involve a major redesign of Dahlberg, which is never an obvious expedient. It is therefore respectfully submitted that Claim 1 recites subject matter which is not disclosed in Dahlberg, and which would not be obvious under §103 in view of Dahlberg. Claim 1 is therefore believed to be allowable, and notice to that effect is respectfully requested.

Independent Claim 21

Independent Claim 21 stands rejected under 35 U.S.C. §103 as obvious in view of Dahlberg. However, this ground of rejection is respectfully traversed, for the following reasons.

Claim 21 is a method claim that includes a limitation which is similar to the limitation from Claim 1 that was quoted above. In particular, Claim 21 recites that a dielectric layer is formed so as to have "an opening therethrough in the region of a further end of said slot portion remote from said one end thereof". For reasons similar to those discussed above in association with Claim 1, it is respectfully submitted that Claim 21 recites subject matter which is not disclosed in Dahlberg, and which would not be obvious under §103 in view of Dahlberg. Claim 21 is therefore believed to be allowable, and notice to that effect is respectfully requested.

Independent Claim 5

The Office Action asserts that, under 35 U.S.C. §103, Claim 5 is obvious in view of Dahlberg. This assertion is set forth in Section 3 of the Office Action, which bridges pages 2-3. However, Section 3 of the Office Action does not offer any explanation in support of this assertion. For example, the Office Action (1) does not point out how Claim 5 is different from Dahlberg (or in other words why Claim 5 is not anticipated by Dahlberg), (2) does not indicate that this difference would be obvious, and (3) does not offer any explanation regarding why the disclosure of Dahlberg would motivate a person of ordinary skill in the art to modify Dahlberg in a manner which would yield the subject matter of Claim 5. It is therefore respectfully submitted that the Office Action fails to properly set forth an obviousness rejection of Claim 5 under §103 based on Dahlberg, and thus fails to establish a prima facie case of obviousness as to Claim 5. Consequently, the Office Action is incomplete, because it indicates that Claim 5 is rejected under §103 but fails to meet all requirements for a proper §103 rejection, and any correction of this defect should be by way of a further action which is non-final.

Since the required components of a §103 rejection are not all present, Applicants are not in a position to fully understand the basis for the §103 rejection, and are thus not obligated to offer any explanation of why Claim 5 is patentably distinct from Dahlberg. Nevertheless, in order to promote examination of the present application, Applicants will voluntarily offer some comments regarding why Claim 5 is

different from Dahlberg (but Applicants do not waive their objection to the fact that Office Action is incomplete).

More specifically, Claim 5 recites a conductive "plate" having a balun hole and a slot extending transversely through it. One example of such an arrangement is shown in Figure 17 of the present application. In contrast, and especially as evident from Figure 6 of Dahlberg, the Dahlberg device does not have any single "plate" which has a balun hole and a slot extending transversely through it. It is therefore respectfully submitted that Claim 5 recites subject matter which is not disclosed in Dahlberg, and which would not be obvious in view of Dahlberg. Claim 5 is therefore believed to be allowable, and notice to that effect is respectfully requested.

Independent Claim 23

Claim 23 is a method claim, which includes a limitation similar to the limitation discussed above in association with Claim 5. In particular, Claim 23 recites a "plate" which has a balun hole and a slot that extend transversely through the plate. Claim 23 stands rejected under §103 as obvious in view of Dahlberg. This rejection is respectfully traversed.

The Office Action states (in the first paragraph on page 3) that the method recited in Claim 23 is implied in creating the Dahlberg device. Applicants respectfully disagree. More specifically, as discussed above in association with Claim 5, the Dahlberg device does not have a single "plate" with a balun hole and a slot extending transversely through it. The Office Action does not indicate

that it would be obvious to modify Dahlberg to include such a plate, nor does the Office Action explain why the disclosure of Dahlberg would motivate a person of ordinary skill in the art to make such a change to the Dahlberg device.

It is therefore respectfully submitted that Claim 23 recites subject matter which is not disclosed in Dahlberg, and which would not be obvious under §103 in view of Dahlberg. Claim 23 is therefore believed to be allowable, and notice to effect is respectfully requested.

Dependent Claims

Claim 27, Claims 6-7 and 28, Claim 29 and Claims 24 and 30 respectively depend from Claim 1, Claim 5, Claim 21 and Claim 23, and are also believed to be allowable over the art of record, for example for the same reasons discussed above with respect to Claims 1, 5, 21 and 23 respectively.

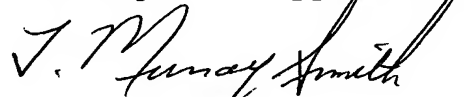
Fourth Information Disclosure Statement

Applicants are enclosing a Fourth Information Disclosure Statement, which submits copies of references that were recently cited in a related co-pending application. The Information Disclosure Statement is accompanied by a check, which includes the fee for submission of the Information Disclosure Statement at this point in the examination process. If the Examiner receives the present Amendment but the Information Disclosure Statement is not with the Amendment, the Examiner is respectfully requested to check within the PTO for the Information Disclosure Statement and, if necessary, contact the undersigned.

Conclusion

Based on the foregoing, it is respectfully submitted that all of the pending claims are fully allowable, and favorable reconsideration of this application is therefore respectfully requested. If the Examiner believes that examination of the present application may be advanced in any way by a telephone conference, the Examiner is invited to telephone the undersigned attorney at (214) 953-6684.

Respectfully submitted,
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Enclosures: Marked-Up Version of Amended Claims
Amendment Transmittal
Check (\$72.00)
Fourth Information Disclosure Statement,
with Form PTO-1449
Check (\$180.00)
Acknowledgment Post Card

MARKED-UP VERSION OF AMENDED CLAIMS

1.2
27. (New) An apparatus according to Claim 1, wherein said opening facilitates impedance matching between said slot portion and a region disposed beyond said further end of said slot portion.

28. (New) An apparatus according to Claim 5, wherein said slot is free of dielectric material.

21. (Amended) A method comprising the steps of:
[crating] creating in an electrically conductive layer a recess therein which includes a balun portion and a slot portion, said slot portion communicating at one end with said balun portion;

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forming a dielectric layer adjacent one side of said conductive layer, said dielectric layer having an opening therethrough in the region of a further end of said slot portion remote from said one end thereof; and

fabricating an elongate conductive element which extends generally transversely with respect to said slot portion in the region of said one end thereof.

29. (New) A method according to Claim 21, wherein said step of forming said dielectric layer includes configuring said opening to facilitate impedance matching between said slot portion and a region disposed beyond said further end of said slot portion.

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30. (New) A method according to Claim 23, including the
step of omitting dielectric material within said slot.